

REMARKS

Claims 1-17 and 20-29 are pending in this application. No new matter has been introduced by way of this amendment.

The Examiner rejected claims 1-4, 6, 7, 9, 10-13, 15, 16, 20-22, 26 and 27 under 35 U.S.C. Section 102(e) as anticipated by Reshef (US 6,529,559). The Examiner's rejections are respectfully traversed.

Independent claims 1 and 9, as amended, recite, "mapping each of the symbols to a plurality of data bits; assigning to each bit in a symbol a confidence value determined from constant confidence values which are based on the mapping; and effecting convolutional decoding of a bit stream associated with the assigned confidence values." The Examiner points to Reshef (U.S. Patent No. 6,529,559), and argues Reshef's "possible symbol values," which the Examiner contends are illustrated in Figures 4 and 5, are constant because they are fixed locations in the complex symbol space associated with particular bit sequences being received. The Examiner also points to the following language from Reshef:

[s]oft symbol values 94 are available at the output of the soft symbol generator 84. Preferably, the soft symbol values are in the form of Log Likelihood Ratio (LLR) values, i.e.  $LLR(sk)$ . A soft decision, in the ideal case, comprises the reliabilities of each possible symbol value.

Col. 10, lines 59-63 (emphasis added by the Examiner). Assuming, *arguendo*, the Examiner's interpretation of Reshef is otherwise correct, Reshef does not disclose assigning to each bit in a symbol a confidence value determined from constant confidence values which are based on the mapping, as recited. The symbols of Reshef are not confidence values, (and Table 1 at Column 16 of Reshef is not a table of "confidence values."). Instead, the possible symbol values of Reshef are hard values of symbols, as the Examiner notes by referring to the possible symbol values as fixed locations in the complex symbol space.

The soft symbol values described in Reshef, comprising the reliability of the possible symbol values, are determined by the equalizer according to a noise estimate. Subsequently, soft bit values are determined based on the maximum soft symbol value of the possible symbol values in different areas of the mapping diagrams shown in Figures 4 to 6 (see, column 15, line 36 to column 16, line 7). So, only at the end of the method disclosed in Reshef

is there a confidence value based on the mapping, i.e. the value ultimately assigned to a bit. In other words, while Reshef may disclose assigning a confidence value with use of a mapping, this is not the same thing as “assigning ... a confidence value determined from constant confidence values which are based on the mapping,” as recited. Claims 2-8, 20, 24, 28 and 29 depend from claim 1, and claims 22 and 23 depend from claim 9, and are allowable at least by virtue of their dependencies. Accordingly, claims 1-9, 20, 22-24, 28 and 29 are not anticipated by Reshef because Reshef does not disclose assigning to each bit in a symbol a confidence value determined from constant confidence values which are based on the mapping.

Independent claim 10, as amended, recites, “mapping means for mapping each symbol to a plurality of bits and for assigning to each bit in a symbol a confidence value determined from constant confidence values which are based on the mapping; and means for effecting convolutional decoding of a bit stream associated with the assigned confidence values.” Reshef does not disclose “assigning to each bit in a symbol a confidence value determined from constant confidence values which are based on the mapping,” as recited. Claims 11-17, 21 and 25 depend from claim 10 and are allowable at least by virtue of their dependencies. Accordingly, claims 10-17, 21 and 25 are not anticipated by Reshef.

Independent claim 26, as amended, recites, “a symbol mapper configured to map each symbol to a respective plurality of bits and to assign to each bit in a symbol a confidence value determined from constant confidence values which are based on the mapping; and a convolutional decoder configured to decode a bit stream associated with the assigned confidence values.” Reshef does not disclose “a symbol mapper configured ... to assign to each bit in a symbol a confidence value determined from constant confidence values which are based on the mapping,” as recited. Claim 27 depends from claim 26. Accordingly, claims 26 and 27 are not anticipated by Reshef.

The Examiner rejected claims 5 and 14 under 35 U.S.C. Section 103(a) as rendered obvious over Reshef in view of U.S. Patent No. 6,826,242 issued to Ojard; claims 8 and 17 as obvious over Reshef without citing a secondary reference; claims 23-25 as obvious over Reshef in view of Gu (US Pub. 2002/0085651); and claims 28 and 29 as obvious over Reshef in view of Mills, et al. (U.S. Pub. 2003/0138065). Applicant respectfully traverses the Examiner's

rejections. The Examiner does not contend that Ojard, Gu or Mills supply the teachings missing from Reshef and discussed above respectively with regard to independent claims 1, 9 and 10. Accordingly, claims 5, 8, 24, 28 and 29 (which depend from claim 1), claim 23 (which depends from claim 9) and claims 14, 17 and 25 (which depend from claim 10) are not rendered obvious by Reshef, alone or in combination with Ojard, Gu and Mills.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

All of the claims remaining in the application are now clearly allowable.  
Favorable consideration and a Notice of Allowance are earnestly solicited.

Respectfully submitted,  
SEED Intellectual Property Law Group PLLC

/Timothy L. Boller/  
Timothy L. Boller  
Registration No. 47,435

TLB:jrb

701 Fifth Avenue, Suite 5400  
Seattle, Washington 98104  
Phone: (206) 622-4900  
Fax: (206) 682-6031

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